

# Model developed for predicting disease progression in hep B liver cirrhosis

April 6 2023, by Elana Gotkine

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For patients with hepatitis B virus (HBV) liver cirrhosis-acute

decompensation (LC-AD), a model combining computed tomography (CT) quantified extracellular liver volume ( $ECV_{IC-liver}$ ) and chronic liver failure consortium-acute decompensation score (CLIF-C  $AD_s$ ) can predict the occurrence of acute-on-chronic liver failure (ACLF), according to a study published online March 29 in *Insights into Imaging*.

Yang Xu, from Lanzhou University Second Hospital in China, and colleagues conducted a [retrospective study](#) to develop and validate a [model](#) for predicting the occurrence of ACLF within 90 days in [patients](#) with HBV LC-AD. Participants underwent dual-energy CT scans of the liver and were randomly assigned to a training group and a validation group (215 and 92 patients, respectively). The need for readmission within 90 days due to ACLF was the primary outcome.

The researchers found that CLIF-C  $AD_s$  and  $ECV_{IC-liver}$  were independent risk factors for ACLF. In the training and validation groups, the area under the receiver operating characteristic curves of the model combining CLIF-C  $AD_s$  and  $ECV_{IC-liver}$  were 0.893 and 0.838, respectively. Good agreement was seen between predicted and actual risks in calibration curves. The model had good clinical application in a decision curve analysis.

"The results of this study can be used to assist the clinic to better identify the early disease progression in LC-AD patients," the authors write.

**More information:** Yuan Xu et al, Dual-energy CT quantification of extracellular liver volume predicts short-term disease progression in patients with hepatitis B liver cirrhosis-acute decompensation, *Insights into Imaging* (2023). [DOI: 10.1186/s13244-023-01393-x](https://doi.org/10.1186/s13244-023-01393-x)

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